

WHAT IS CLAIMED IS:

1. A semiconductor memory device comprising:  
an external terminal to which a voltage for switching an operation mode is applied;  
a protective transistor connected between the external terminal and a ground; and  
a voltage detection circuit for detecting a voltage of the external terminal and outputting a signal for switching a first operation mode to a second operation mode when the detected voltage is a predetermined voltage or higher,  
wherein the protective transistor has a drain region surrounded by a gate electrode.

2. A semiconductor memory device according to claim 1, wherein the voltage detection circuit has a plurality of MOS transistors connected in series between the external terminal and the ground and outputs the signal from a node among the MOS transistors connected in series,

wherein a MOS transistor of the plurality of MOS transistors connected to the external terminal is a high breakdown voltage MOS transistor.